

Draft Findings

Water Quality

The State Water Resources Control Board through direct actions and in coordination with the Regional Water Quality Control Boards, known collectively as The Water Boards, regulate point discharges from municipalities, industries, irrigated agricultural lands, and non-point discharges from open lands. The Water Boards issue National Pollutant Discharge Elimination System and Waste Discharge permits for municipalities and industries. These permits are reviewed and renewed periodically. The Water Boards regulate discharges from irrigated agricultural lands under the Irrigated Lands Regulatory Program. The Regional Water Quality Control Boards have issued conditional waivers of waste discharge requirements to growers that have not caused water quality objectives and do not require water quality monitoring.

Water quality in the Delta, especially salinity, is impacted by climatic conditions (freshwater inflows and drought cycles), upstream and in-Delta uses, tidal influences, and in-Delta and export diversions and operations. Water quality is better in the north Delta than in the central and southern Delta because the inflow in the Sacramento River is greater than from the streams that enter the Delta on the east (Cosumnes, Mokelumne, and Calaveras rivers) and in the San Joaquin River and because of agricultural drainage into the San Joaquin River. The State Water Resources Control Board has listed the Delta and San Francisco Bay as impaired under Section 303(d) of the Federal Clean Water Act due to a number of contaminants, including organophosphate and pyrethrin pesticides, elemental mercury, methyl mercury, selenium and unknown toxicity. Other water quality issues within the Delta include salinity, bromide, dissolved organic carbon compounds, nutrients, dissolved oxygen, diazinon, chlorpyrifos, pathogens, polychlorinated biphenyls, turbidity, pharmaceutical residues, and temperature.

In 2010, the State Water Resources Control Board indicated that some of the most serious water quality problems in the Delta watershed and all of California are related to non-point source pollution. Therefore, the Water Boards have prioritized the processes to develop total maximum daily limit criteria on a statewide basis and eliminate the need to develop individual regional criteria. (SWRCB, 2010)

Findings

General

- Future western Delta water quality could reduce beneficial use for drinking water.
- Delta water quality is degraded and could impair beneficial use for drinking water.
- Future western Delta salinity could impair agricultural beneficial use.
- Water quality is degraded and could impair beneficial use for the ecosystem habitat in the future. (CVRWQCB 2007, 2010a, 2010b, 2010d)

Agricultural Discharges

- Pollutants from agricultural discharges have impaired many of California's surface and groundwater resources. (California Water Plan Update 2009, Volume 2, Chapter 17).

Salinity/Salt Management

- Seawater intrusion into the Delta impacts the quality of water exported from the Delta. (California Water Plan Update 2009, Volume 2, Chapter 18)
- California's natural and constructed conveyance systems are not optimized for salt management. (California Water Plan Update 2009, Volume 2, Chapter 18)
- Salt management in California has not kept up with emerging salt problems in many parts of the State. (California Water Plan Update 2009)

Urban Runoff

- Urban runoff presents a threat to both surface and groundwater quality. (California Water Plan Update 2009, Volume 2, Chapter 19)
- Efforts to address urban runoff are most effectively managed at the watershed scale. (California Water Plan Update 2009, Volume 2, Chapter 19)

Nutrients

- Contaminants discharges into the Delta from municipal, industrial, and agricultural sources have affected native species by altering the food webs, reducing food web productivity, and producing toxicity. (Based upon information included in CVRWQCB 2010 Resolution No. R5-2010-0079 and California Review in Fisheries Science 18:211-232, 2010)
- Excessive amounts of ammonium and nitrate, and the ratio of nitrogen to phosphorus, are having a negative effect on the productivity and species composition of phytoplankton in the Delta and stimulate growth of nuisance algae. (Wilkerson et al. 2006, Dugdale et al. 2007, Jassby 2008, and Glibert 2010)

Dissolved Oxygen

- Dissolved oxygen levels drop below water quality objectives at locations within the Delta. (303d list)

Pesticides and Emerging Contaminants

- Most emerging pollutants, such as chemicals found in pharmaceuticals and personal care products, have not been subject to rigorous assessment or regulatory action. (California Water Plan 2009 Update, Volume 2, Chapters 14, 15, and 17)
- New pesticides are approved for use without adequate consideration of potential impacts on aquatic species and ecosystems. (Kuivila and Hladik, 2008, Werner et al, 2008)

Ecosystem Restoration

- Restoring a healthy ecosystem may require developing a more natural salinity regime in parts of the Delta. (Moyle et al. 2010)

Wastewater Infrastructure

- Much of California's wastewater treatment infrastructure has reached or exceeded its useful life expectancy. (California Water Plan Update 2009, Volume 2, Chapter 17).

Climate Change

- Climate change will likely exacerbate existing water quality challenges. (California Water Plan Update 2009, Volume 2, Chapters 14 and 17)

Water Quality Exchanges

- Matching water quality to water use can result in reduced treatment costs and energy consumption. (California Water Plan Update 2009, Volume 2, Chapter 16)

Water Quality Management

- For most water quality contaminants, pollution prevention is more cost-effective than engineered treatment systems. (California Water Plan Update 2009, Volume 2, Chapter, 17)